independent form including all the limitations of the base claim and any intervening claims. Claim 8 has been amended to be in independent form and to include the limitations of the base claim and any intervening claims. Accordingly, Claim 8 is allowable.

Claims 1-7, 9-11 and 35 stand rejected as being anticipated by or, in the alternative, as being obvious over Shinriki et al.

Claims 1, 10, and 35 have been amended. Support for the amendments of Claims 1, 10, and 35 appears in the specification at least at: page 7, lines 8-24; page 8, line 26 to page 9, line 10; page 13, lines 2-28; page 15, line 28-32; page 19, line 33 to page 20, line 6; and in FIGS. 5A and 5B.

Claims 1-7, 9-11 and 35 are patentable over Shinriki et al.

The Examiner states:

> It is noted that the dictionary definition of "at" is "a function word used to indicate presence or occurrence in, on or near". Giving the word its broadest reasonable interpretation, the phrase "located at" means broadly "located near". The dictionary definition of the word "near" is "not far from". It is inherent or at least obvious from the schematic of Shinriki that the first gas inlet manifold valve **is not far from** the semiconductor unit. (Office Action, page 2, emphasis added.)

Accordingly, the Examiner asserts that "located at" is equivalent to "located not far from". However, Claim 1 has been amended and now recites a gas flow control system for a semiconductor processing unit comprising:

> a first mass flow controller located at a first location;
>
> a support structure located at said semiconductor processing unit;
>
> a gas manifold located at said support structure; and
>
> a first gas manifold inlet valve located at said support structure and coupled between said gas manifold and said first mass flow controller, **wherein said gas**

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manifold and said first gas manifold inlet valve are located directly adjacent said semiconductor processing unit and at a second location separate and removed from said first location. (Emphasis added.)

Applicant respectfully submits that the Examiner has failed to call out where Shinriki et al. teaches or suggests a gas flow control system as recited in amended Claim 1. Accordingly, Claim 1 is allowable over Shinriki et al. Claims 2-7 and 9, which depend from Claim 1, are allowable for at least the same reasons as Claim 1.

Claims 10 and 35 are allowable over Shinriki et al. for reasons similar to Claim 1. Claim 11, which depends from Claim 10, is allowable for at least the same reasons as Claim 10.

For the above reasons, Applicant respectfully requests reconsideration and withdrawal of this rejection.

CONCLUSION

Claims 1-11, 22, 25-28 and 35-37 are pending in the application. For the foregoing reasons, Applicant respectfully requests allowance of all pending claims. If the Examiner has any questions relating to the above, the Examiner is respectfully requested to telephone the undersigned Attorney for Applicant(s).

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Respectfully submitted,

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a first gas source coupled to an inlet port of said mixer;

a second gas source coupled to said inlet port of said mixer;

a first regulator coupled between said inlet port of said mixer and said first gas source;

a second regulator coupled between said inlet port of said mixer and said second gas source;

a third regulator coupled to an outlet port of said mixer; and

a check valve coupled to said outlet port of said mixer and to an exhaust.

25. A system comprising:

a mixer;

a first gas source coupled to an inlet port of said mixer;

a second gas source coupled to said inlet port of said mixer;

a first regulator coupled between said inlet port of said mixer and said first gas source;

a second regulator coupled between said inlet port of said mixer and said second gas source;

a third regulator coupled to an outlet port of said mixer;

a check valve coupled to said outlet port of said mixer and to an exhaust, wherein a first flow of a process gas exits said mixer, wherein a second flow of said process gas passes through said third regulator, a difference between said first flow and said second flow being a third flow of said process gas which passes through said check valve.

26. A system comprising:

a mixer;

a first gas source coupled to an inlet port of said mixer;

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Gary M. Moore		
Assignee:	Moore Epitaxial Inc.		
Title:	GAS FLOW CONTROLLER SYSTEM		
Serial No.:	09/399,611	Filed:	September 20, 1999
Examiner:	Bueker, R.	Group Art Unit:	1763
Docket No.:	MTEC1010		

Monterey, CA
September 19, 2001

CLEAN COPY OF REPLACEMENT CLAIMS

Replace the pending set of claims in the above application with the following set of claims:

1. (AMENDED) A gas flow control system for a semiconductor processing unit comprising:

a first mass flow controller located at a first location;

a support structure located at said semiconductor processing unit;

a gas manifold located at said support structure; and

a first gas manifold inlet valve located at said support structure and coupled between said gas manifold and said first mass flow controller, wherein said gas manifold and said first gas manifold inlet valve are located directly adjacent said semiconductor processing unit and at a second location separate and removed from said first location.

2. The system of Claim 1 further comprising a first gas manifold exhaust valve coupled between said first mass flow controller and an exhaust.

3. The system of Claim 1 further comprising

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a second mass flow controller located at said first location; and

a second gas manifold inlet valve located at said second location, said second gas manifold inlet valve being coupled between said second mass flow controller and said gas manifold.

4. The system of Claim 3 further comprising a first gas manifold exhaust valve coupled between said first mass flow controller and an exhaust.

5. The system of Claim 4 further comprising a second gas manifold exhaust valve coupled between said second mass flow controller and said exhaust.

6. The system of Claim 1 wherein said semiconductor processing unit comprises a reactor, wherein said gas manifold is coupled to one or more injector ports of said reactor.

7. The system of Claim 6 wherein said reactor is supported by said support structure.

8. (AMENDED) A gas flow control system for a semiconductor processing unit comprising:

a first mass flow controller located at a first location;

a support structure located at said semiconductor processing unit;

a gas manifold located at said support structure;

a first gas manifold inlet valve located at said support structure and coupled between said gas manifold and said first mass flow controller, wherein said gas manifold and said first gas manifold inlet valve are located at a second location separate and removed from said first location; and

a gas cabinet, said first mass flow controller being located in said gas cabinet.

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9. The system of Claim 1 further comprising a process gas source coupled to said first mass flow controller.

10. (TWICE AMENDED) A system comprising:

a semiconductor processing reactor;

a gas manifold;

a first process gas source located at a first location;

a first regulator coupled to said first process gas source, said first regulator located at said first location;

a first gas manifold inlet valve coupled between said first regulator and said gas manifold, wherein said gas manifold and said first gas manifold inlet valve are located as close as physically possible to said semiconductor processing reactor and at a second location separate and removed from said first location;

a second process gas source located at said first location;

a second regulator coupled to said second process gas source, said second regulator located at said first location; and

a second gas manifold inlet valve coupled between said second regulator and said gas manifold, said second gas manifold inlet valve located as close as physically possible to said semiconductor processing reactor and at said second location.

11. The system of Claim 10 further comprising:

a first gas manifold exhaust valve coupled between said first regulator and an exhaust; and

a second gas manifold exhaust valve coupled between said second regulator and said exhaust.

22. A system comprising:

a mixer;

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a second gas source coupled to said inlet port of said mixer, wherein said first gas source is a dopant gas source and wherein said second gas source is a carrier gas source;

a first regulator coupled between said inlet port of said mixer and said first gas source; and

a second regulator coupled between said inlet port of said mixer and said second gas source.

27. The system of Claim 22 wherein said first regulator regulates a flow rate of a flow of a first gas from said first gas source and wherein said second regulator regulates a flow rate of a flow of a second gas from said second gas source.

28. The system of Claim 27 wherein said first regulator and said second regulator are mass flow controllers.

35. (AMENDED) A gas flow control system for a semiconductor processing unit comprising:

a first process gas source located at a first location;

a first mass flow controller located at said first location and coupled to said first process gas source;

a support structure located at said semiconductor processing unit;

a gas manifold attached to said support structure;

a first gas manifold inlet valve attached to said support structure and coupled between said gas manifold and said first mass flow controller;

a second process gas source located at said first location;

a second mass flow controller located at said first location and coupled to said second process gas source; and

a second gas manifold inlet valve attached to said support structure and coupled between said gas manifold and said second mass flow controller,

wherein said gas manifold, said first gas manifold inlet valve and said second gas manifold inlet valve are located at

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a second location separate and removed from said first location, a first process gas from said first process gas source and a second process gas from said second process gas source mixing in said gas manifold.

36. A system comprising:

a mixer;

a first gas source coupled to an inlet port of said mixer;

a second gas source coupled to said inlet port of said mixer, wherein a first process gas from said first process gas source and a second process gas from said second process gas source mix in said mixer;

a first regulator coupled between said inlet port of said mixer and said first gas source;

a second regulator coupled between said inlet port of said mixer and said second gas source; and

a third regulator coupled to an outlet port of said mixer, said third regulator being a mass flow controller.

37. The system of Claim 36 further comprising a check valve coupled to said outlet port of said mixer and to an exhaust.

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Attorney for Applicant(s) — Sept. 19, 2001 Date of Signature

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Docket No.:	MTEC1010		

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

Claims 1, 8, 10, and 35 have been amended as follows:

1. (AMENDED) A gas flow control system for a semiconductor processing unit comprising:

a first mass flow controller located at a first location;

a support structure located at said semiconductor processing unit;

a gas manifold located at said support structure; and

a first gas manifold inlet valve located at said support structure and coupled between said gas manifold and said first mass flow controller, wherein said gas manifold and said first gas manifold inlet valve are located directly adjacent said semiconductor processing unit and at a second location separate and removed from said first location.

8. (AMENDED) A gas flow control system for a semiconductor processing unit comprising:

a first mass flow controller located at a first location;

a support structure located at said semiconductor processing unit;

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a gas manifold located at said support structure;

a first gas manifold inlet valve located at said support structure and coupled between said gas manifold and said first mass flow controller, wherein said gas manifold and said first gas manifold inlet valve are located at a second location separate and removed from said first location; and

[The system of Claim 1 further comprising] a gas cabinet, said first mass flow controller being located in said gas cabinet.

10. (TWICE AMENDED) A system comprising:

a semiconductor processing reactor;

a gas manifold;

a first process gas source located at a first location;

a first regulator coupled to said first process gas source, said first regulator located at said first location;

a first gas manifold inlet valve coupled between said first regulator and said gas manifold, wherein said gas manifold and said first gas manifold inlet valve are located as close as physically possible to said semiconductor processing reactor and at a second location separate and removed from said first location;

a second process gas source located at said first location;

a second regulator coupled to said second process gas source, said second regulator located at said first location; and

a second gas manifold inlet valve coupled between said second regulator and said gas manifold, said second gas manifold inlet valve located as close as physically possible to said semiconductor processing reactor and at said second location.

35. (AMENDED) A gas flow control system for a semiconductor processing unit comprising:

a first process gas source located at a first location;

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a first mass flow controller located at said first location and coupled to said first process gas source;

a support structure located at said semiconductor processing unit;

a gas manifold [located at] attached to said support structure;

a first gas manifold inlet valve [located at] attached to said support structure and coupled between said gas manifold and said first mass flow controller;

a second process gas source located at said first location;

a second mass flow controller located at said first location and coupled to said second process gas source; and

a second gas manifold inlet valve [located at] attached to said support structure and coupled between said gas manifold and said second mass flow controller,

wherein said gas manifold, said first gas manifold inlet valve and said second gas manifold inlet valve are located at a second location separate and removed from said first location, a first process gas from said first process gas source and a second process gas from said second process gas source mixing in said gas manifold.

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